

Appl. No. 10/082,728
Amdt. Dated August 31, 2005
Reply to Office Action of May 31, 2005

REMARKS/ARGUMENTS

This amendment is responsive to the Office Action mailed on May 31, 2005. In the Office action claims 1-21, 25 were rejected under 35 U.S.C. §102 (e) as being anticipated by Richards et al. (U.S. Publication No. 2002/006108, hereinafter "Richards"), and claims 22-24 were rejected under 35 U.S.C. §102 (e) as being anticipated by McCorkle et al. (U.S. Publication No. 2002/0064245, hereinafter "McCorkle"). Claims 1, 14, and 25 have been amended. No new matter is added. Claims 22-24 are cancelled.

Claims 1-21 and 25 remain pending in this application. Reconsideration in light of the above amendments and the following remarks is respectfully requested.

Claims define allowable subject matter over the applied art

Claims 1-21, 25 were rejected under 35 U.S.C. §102 (e) as being anticipated by Richards. Independent claims 1, 14, and 25 have been amended to provide more clarity for the claimed subject matter. Support for the amendments can be found in Applicant's specification at, for example paragraph [0017] and Figure 2. Applicant has carefully reviewed the applied reference, and respectfully traverses the rejection of independent claims 1, 14, and 25 under 35 U.S.C. §102 (e) as being anticipated by Richards. Anticipation requires that each and every element of the claim must be taught by the reference. Applicant respectfully submits that Richards does not teach, suggest or disclose each element of Applicant's recited invention.

Richards describes a technique for reducing interference in an impulse radio receiver. In Richards technique, a signal including an impulse signal and potential interference is received by the impulse radio. In the different embodiments described in Richards, the data sample (received impulse signal) is combined with nulling samples to produce an adjusted sample. For reducing interference potential interference in a received signal is sampled at a plurality of sampling times near an expected time of arrival of an impulse in an impulse signal, to produce a corresponding plurality of interference nulling samples. When the impulse arrives at the expected time of arrival, the impulse is sampled in the presence of the potential interference to produce a data sample. The nulling samples represent estimates of potential interference energy captured in the data sample so that the nulling samples can be used to cancel the potential interference energy from the data sample. (See, Paragraph [0019], [0025] and [0026].

Applicant respectfully submits that Richards does not teach, disclose or suggest the following claim recitations (emphasis added):

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With respect to amended independent claims 1, and 14, Richards does not disclose, teach or suggest the claim recitations of "a receiver front end downconverter", and "producing ultra wideband downconverted pulses from the transmitted reference ultra wideband communications signal", and with respect to amended independent claim 25, Richards does not disclose, teach or suggest the claim recitations of "receiving the transmitted reference ultra wideband communications signals using an antenna", and "downconverting the transmitted reference ultra wideband communications signals into downconverted ultra wideband pulses". The technique described in the Applicant's application includes a distributed receiving system and a method for proper synchronization and proper demodulation of TR-UWB (transmitted reference ultra wideband) signals. TR-UWB communications is defined as the transmission of two versions of a wideband carrier where one version is modulated by data and the other version is unmodulated (see, Background, paragraph [0004]). Figure 2 in the Applicant's application and the related discussion in paragraph [0017] describe an embodiment of the downconversion processing.

Though Richards does deal with ultra wideband signals, the focus of Richards is on interference minimization and not for producing downconverted pulses in the manner as described by the Applicant. And more specifically, Richards technique is not directed to TR-UWB signals, it is directed towards stored reference ultra wideband (SR-UWB) signals. In SR-UWB communication, one correlator is needed for each multipath component and distinct channels are used for each multipath. Channel estimation is done for each channel based on a stored reference signal. Consequently, Richards discusses a RF front end as shown in Figure 16 and described in paragraph [0369] that does not include any correlator. RF front end in Richards is used to divide the received signals into multiple RF channels. Richards describes correlators with reference to RF sampling subsystem as shown in Figure 16 and related description in paragraphs [0369]- [0373]. Here also, the correlator described in Richards is distinct from the Applicant's recited correlator shown in Figure 2 and described in paragraph [0017] of the Applicant's application. Richards describes sampling correlators that produce first and second received signal samples offset in time from one another. And this is done for each channel in Richards. In contrast, the output of the correlator in the Applicant's application is a single downconverted signal as shown in Figure 2. As explained hereinabove, Richards does not deal with TR UWB signals and therefore the claim recitation "producing ultra wideband downconverted pulses from the transmitted reference ultra wideband communications signal" is also not anticipated by Richards.

Thus, Richards is completely devoid of any teaching, disclosure or suggestion that can lead to the above mentioned claim recitations of amended independent claims 1, 14, and 25. Thus the Applicant respectfully submits that the independent claims 1, 14, and 25, as amended are not anticipated by Richards under 35 U.S.C. §102 and therefore, are allowable. Claims 2-13 depend directly or indirectly from claim 1, and claims 15-21 depend directly or indirectly from claim 14. These dependent claims are similarly allowable.

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Claims 22-24 were rejected under 35 U.S.C. §102 (e) as being anticipated by McCorkle. Though the Applicant has cancelled these claims, Applicant would respectfully like to submit the claim rejections for claim 22 as outlined in the Office Action was not clear. It appeared that the Examiner was rejecting the system claim 1 instead of the method claim 22.

In view of the foregoing remarks, Applicant respectfully requests withdrawal of the rejections under 35 U.S.C. §102 (e).

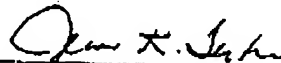
Summary

In view of the foregoing, Applicant respectfully submits that the application is in condition for allowance. Favorable reconsideration and prompt allowance of the application are respectfully requested.

Should the Examiner believe that anything further is needed to place the application in even better condition for allowance, the Examiner is requested to contact Applicant's undersigned representative at the telephone number below.

Respectfully submitted,

By



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